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A Faculty Development Workshop for High-Value Care Education Across Clinical Settings

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Abstract

Introduction: Despite rising health care costs, trainees frequently do not receive formal high-value care (HVC) training. As medical education often occurs through informal learning, it is imperative that medical educators be prepared to teach HVC concepts across clinical settings. **Methods:** This workshop was created to provide frameworks for teaching HVC across four pediatric educational settings: (1) case-based conferences, (2) inpatient rounding, (3) ambulatory visits, and (4) conversations with patients and families. Frameworks were developed based on literature review, content experts' knowledge, and internal assessment and feedback. The workshop was divided into two sections: a didactic overview of HVC education and interactive small-group sessions to practice application of the Toolkit for Teaching High-Value Care. At the end of the workshop, participants completed the Prescription for High-Value Care to create a personal action plan. **Results:** This workshop has been presented at both national and local pediatric conferences. From over 89 evaluations (83% response rate), participants felt the workshop met objectives, served as a valuable use of their time, and provided useful resources. Evaluations elicited specific actions that participants gleaned from workshop content along with proposed behavior changes, such as creating HVC case-based conferences at their home institution and initiating more value-based discussions. **Discussion:** This workshop has been successfully presented in both national and local settings and has been well received by participants. The workshop is targeted for clinical educators and aims to address the gap in faculty development for HVC education.

Keywords

Faculty Development, Pediatrics, High-Value Care, Editor's Choice

Appendices

A. Workshop Time Line.docx
B. Toolkit for Teaching High-Value Care.docx
C. Workshop PowerPoint Presentation.pptx
D. Teaching HVC in Case Conferences Facilitator Guide.docx
E. Teaching HVC at the Bedside Facilitator Guide .docx
F. Teaching HVC in Ambulatory Settings Facilitator Guide.docx
G. Communicating Value With Diplomacy Facilitator Guide .docx
H. Communicating Value With Diplomacy Handout and Script.docx
I. Prescription for High-Value Care.docx
J. HVC Faculty Development Evaluation.doc

All appendices are peer reviewed as integral parts of the Original Publication.

Educational Objectives

By the end of this workshop, learners will be able to:

1. Define health care value and identify challenges in teaching value.
2. Identify resources in pediatric high-value care education to promote adoption and development of effective curricula and education.
3. Effectively employ evidence-based strategies to promote high-value care during case-based discussions, large-group conferences, and bedside rounds.
4. Utilize techniques to teach learners about discussing high-value care with patients and families.

Introduction

Health care in the United States has grown ever more expensive over the past several decades, now constituting 17% of the gross domestic product, with average per capita spending well above other developed nations.[1] Some have estimated that up to 47% of this spending may be classified as waste or overuse,[2] defined as when the potential for harm exceeds a health care service's probable benefit.[3] In addition to the direct costs of this overuse, physicians are becoming more aware that overuse can lead to patient harm through overtreatment[4] and overdiagnosis.[5] Evidence suggests that the field of pediatrics is no less susceptible to overuse of services that have little benefit to the patient and even the potential to cause harm.[6] Despite these trends, there is currently a dearth of pediatric residency training programs that include formal training on the topic of high-value care (HVC).[7,8] HVC has been defined as care that results

in the most value, formulated as the quality of health outcomes divided by the cost.[9] HVC has also been defined as "right care" or "care that weighs up benefits and harms, is patient-centered (taking individual circumstances, values, and wishes into account), and is informed by evidence, including cost-effectiveness."[10] There is evidence that many practitioners have little baseline knowledge about the costs of care they provide[11-13] or the benefits and harms of care.[14,15] Because of this, a call to include HVC topics in formal education during training has increasingly been heard,[16-18] and several formal curricula have been developed in response to this need.[19-23] Many of these curricula are focused on didactic lectures or review of cases with trainees in formal settings such as educational conferences.

However, several important gaps remain in addressing the need for HVC education. While there are growing numbers of resources to address how to teach the topic of value in formal educational environments, a large amount of trainees' learning occurs in informal environments,[24] and there is evidence that informal teaching on value does not occur frequently in them.[7,25] In many studies, a lack of faculty role models has been identified as a key barrier to high-value practice,[26-28] and a review of value-related educational interventions has found that the environment and culture of an institution concerning value are important for successful learning.[28] These studies highlight the key role that faculty play in supporting informal education on HVC and in creating a culture of value at an institution to support this learning. Currently, few resources exist to support faculty development regarding HVC education,[19] and those that do exist are didactic and often focus more on expanding faculty knowledge of key financial concepts.[29] Few resources address how to best incorporate HVC teaching into everyday clinical interactions. Our objective was to fill this gap through the creation of a workshop to provide pediatric clinical educators with the knowledge and skills to offer HVC education in a variety of clinical settings.

In 2015, a framework was developed for case-based HVC education that could be incorporated into educational conferences.[30] Subsequently, a working group of pediatric educators came together to develop similar frameworks for other clinical settings. Setting-specific frameworks were based on literature review and content experts' knowledge and went through an iterative review process within the work group. This process culminated in the development of a workshop for teaching HVC across pediatric clinical settings. The workshop's target audience is pediatric clinical educators who work with trainees; the workshop addresses four key clinical areas where faculty can incorporate teaching about HVC: case-based conferences, inpatient rounding, ambulatory visits, and conversations with patients and families. We chose a workshop format for this educational initiative to allow participants to tailor the experience to their own educational needs through small-group activities that match the clinical settings in which they teach. Additionally, the interactive format permits active learning through role-plays, and the 2-hour time period allows for concentration of content that can be worked into busy clinical schedules. By developing faculty skills and teaching scripts, we sought to address the need to include HVC education in both formal and informal trainee educational efforts.

Methods

We began by generating workshop objectives (see above) and then developed an outline and time line of the workshop (Appendix A), as well as facilitator guides to complement each section. We also compiled the Toolkit for Teaching High-Value Care, which presents each framework and summarizes relevant section-specific content and tools (Appendix B). All participants received this toolkit during the small-group breakout sessions. Each portion of the workshop went through an internal assessment and feedback process with all other workshop leaders to review accuracy and quality of content. We presented the workshop at two national pediatric conferences, Pediatric Hospital Medicine (July 2016)[31] and Pediatric Academic Societies (May 2017),[32] making revisions based on attendees' direct feedback and anonymous evaluations. We also presented the workshop at two local conferences, Baylor College of Medicine/Texas Children's Hospital Educator's Retreat (December 2016)[33] and Cincinnati Children's Hospital Medical Center Faculty Development and Health Care Educators Conference (October 2017).[34] It will next be presented at the national Pediatric Hospital Medicine conference in July 2018. Participants included

medical students, pediatric residents and fellows, and pediatric faculty members from community and academic centers.

In creating this workshop, we focused on maximizing participants' interaction, limiting didactics to presentation of background knowledge to frame the need for HVC education. Following a case-based activity functioning as a hook for further discussion of HVC, a brief didactic provided an overview of general HVC concepts and the need for HVC education. We then divided participants into small groups to participate in interactive breakout sessions that offered an in-depth review of HVC teaching frameworks based on clinical setting. Afterward, participants engaged in a role-play and discussion about communicating value with patients and families. The workshop concluded with a large-group debrief in which individual participants reflected on personal next steps and anticipated challenges or barriers to implementation.

Workshop Outline
The workshop was divided into five sections, which are described in more detail below:

1. Introductions, objectives, and hook activity: 10 minutes.
2. Brief large-group didactic: 15 minutes.
3. Three small-group breakout sessions demonstrating how to teach HVC concepts in a variety of settings: 25 minutes each for two rotations (total: 50 minutes).
4. Interactive session on Communicating Value With Diplomacy: 20 minutes.
5. Large-group debrief and wrap-up: 25 minutes.

Introductions, objectives, and hook activity: At the start of the workshop, all facilitators introduced themselves. One facilitator presented the workshop objectives using the Workshop PowerPoint Presentation (Appendix C) and asked for a show of hands from participants in response to questions about clinical role (i.e., attending, fellow, resident, medical student), clinical practice setting (i.e., university-affiliated vs. community), and whether participants taught trainees or practiced at an institution with a formal value curriculum. This brief introduction to the room allowed facilitators to have a better understanding of the workshop audience's prior exposures to clinical teaching and HVC education. The facilitator then presented a case to serve as a hook activity and facilitate discussion of HVC topics. Participants responded to management questions about the case using Poll Everywhere (or via a show of hands when Poll Everywhere was unavailable).

Brief large-group didactic: A different facilitator subsequently introduced an overview of current pediatric health care spending and value, including definition and key concepts of HVC, using the Workshop PowerPoint Presentation. This portion of the workshop also included information about HVC education to provide context for the need for HVC clinical teaching. Guidance for presenting this information was included in the notes section of each slide.

Small-group breakout sessions: Three concurrent interactive small-group breakout sessions demonstrated how to teach HVC concepts in a variety of settings, including teaching HVC in case conferences (see Appendix D for facilitator guide), at the bedside (see Appendix E for facilitator guide), and in ambulatory settings (see Appendix F for facilitator guide). Participants chose two of the three small groups to attend and received the Toolkit for Teaching High-Value Care (Appendix B) in their first small group. Each small group lasted about 25 minutes and consisted of a brief overview of a framework for teaching and talking about value in each of the clinical settings. Participants had an opportunity to practice the methods discussed through role-plays using practice cases and subsequently were encouraged to discuss facilitators and barriers to using these frameworks in their own clinical teaching environments.

Interactive session: The Communicating Value With Diplomacy interactive session (see Appendix G for facilitator guide) utilized a role-playing exercise to demonstrate how to engage in discussions related to

HVC with families and consultants. Two facilitators introduced the topic and role-play scenario (script, Appendix H; Workshop PowerPoint Presentation, Appendix C). In facilitated small groups, participants discussed the scenario and brainstormed steps to improve communication. Role-playing facilitators presented communication tools to aid in discussions of health care value with patients and families using the Communicating Value With Diplomacy portion of the Workshop PowerPoint Presentation.

Large-group debrief and wrap-up: After completion of the Communicating Value With Diplomacy interactive session, individuals reported their reflections on personal takeaways, perceived barriers or challenges, and anticipated next steps to the large group. Following this discussion, participants completed a personal action plan by filling out the Prescription for High-Value Care (Appendix I), as well as a workshop evaluation (Appendix J).

Workshop Evaluation

All participants anonymously and voluntarily completed an evaluation (Appendix J) at the end of the workshop. We created the evaluations to assess the participants' perception of the value of the session and to identify any changes in practice participants planned to make as a result of the session, with the goal of assessing potential behavior change. Additionally, participants completed the Prescription for High-Value Care (Appendix I) in which they were asked to identify behaviors they proposed starting or stopping in regard to their approach to HVC. If participants desired, these were voluntarily collected, scanned, and subsequently emailed to them 3 months after the workshop as a reminder of the proposed behavior changes.

Room Setup, Equipment, and Environment

Tables were arranged to accommodate 10-12 participants per small group. A flip chart or whiteboard was available for each table to document decision making in small-group activities and role-plays. Audiovisual equipment with access to a computer, projector, and screen allowed for viewing of the introductory hook activity and slides when in the large-group setting. The workshop was designed for a 2-hour time frame but could be modified as needed (see Appendix A for suggested time line). Of note, during the small-group breakout sessions, all three small groups operated concurrently, twice in a row. Participants therefore had the option of rotating through two of the three small-group sessions.

A prerequisite knowledge of the basic concepts of HVC was helpful but not essential to facilitate the workshop. Participants required no prerequisite knowledge to participate in the workshop. At least one facilitator per small-group breakout topic was required; however, if attendance was expected to exceed 10-12 individuals per group, additional facilitators were necessary.

Results

Across settings, evaluations revealed that participants felt the workshop met objectives and served as a valuable use of their time. Participants also found the handouts and toolkit useful. Moreover, participants felt that they learned information that could be applied at their home institutions.

The workshop was peer-reviewed and accepted for a 75-minute presentation at the 2016 Pediatric Hospital Medicine conference.[31] Approximately 79 individuals attended the workshop, with a total of 61 evaluation forms returned at the conclusion of the session (response rate: 77%). The evaluation form, constructed by the workshop facilitators, utilized a 5-point scale (1 = *strongly disagree,* 5 = *strongly agree*) to assess participant response. Results are presented in Table 1.

Table 1. Workshop Evaluations From the 2016 Pediatric Hospital Medicine Conference[a]

Statement	*M*
Workshop met objectives.	4.4
Workshop was a valuable use of my time.	4.5
Handouts and resources were useful.	4.6
I learned information I can apply at my home institution.	4.5

[a]Based on a 5-point scale (1 = *strongly disagree,* 2 = *disagree,* 3 = *neutral,* 4 = *agree,* 5 = *strongly agree*).

We also presented the workshop in its current format at the 2017 Pediatric Academic Societies Meeting in a 120-minute session.[32] Twenty-four participants returned the evaluation forms (response rate: 100%). Modifying the original workshop, we added a small-group breakout session on teaching HVC in the ambulatory setting. Results are presented in Table 2.

Table 2. Workshop Evaluations From the 2017 Pediatric Academic Societies Meeting[a]

Statement	*M*
Workshop met objectives.	4.8
Workshop was a valuable use of my time.	4.9
Handouts and resources were useful.	4.9
I learned information I can apply at my home institution.	4.8

[a]Based on a 5-point scale (1 = *strongly disagree,* 2 = *disagree,* 3 = *neutral,* 4 = *agree,* 5 = *strongly agree*).

This workshop has also been presented at local and regional conferences. It was presented at the Baylor College of Medicine/Texas Children's Hospital Educator's Retreat (December 2016)[33] and at the Cincinnati Children's Hospital Medical Center Faculty Development and Health Care Educators Conference (October 2017).[34] Instead of the evaluation developed for the workshop, the Baylor College of Medicine/Texas Children's Hospital conference utilized standardized site-specific conference evaluations rated on a different 5-point scale (1 = *poor,* 5 = *excellent*). Evaluation data were provided in aggregate form by the institution, and response rate is unknown. Results are presented in Table 3.

Table 3. Workshop Evaluations From the Baylor College of Medicine/Texas Children's Hospital Educator's Retreat[a]

Statement	*M*
Workshop met objectives.	4.5
Workshop will be used in my educational activities.	4.6
Workshop met my personal expectations.	4.6
Workshop updated my current knowledge.	4.6

[a]Based on a 5-point scale (1 = *poor,* 2 = *fair,* 3 = *good,* 4 = *very good,* 5 = *excellent*).

The Cincinnati Children's Hospital Medical Center workshop had only four participants, with a 100% response rate for the workshop evaluation form. Results are presented in Table 4.

Table 4. Workshop Evaluations From the Cincinnati Children's Hospital Medical Center Faculty Development and Health Care Educators Conference[a]

Statement	*M*
Workshop met objectives.	4.8
Workshop was a valuable use of my time.	4.8
Handouts and resources were useful.	4.8
I learned information I can apply at my home institution.	4.8

[a]Based on a 5-point scale (1 = *strongly disagree,* 2 = *disagree,* 3 = *neutral,* 4 = *agree,* 5 = *strongly agree*).

Open-ended questions at the end of the evaluation form asked participants to identify changes in behavior as a result of the workshop and the most valuable aspect of the workshop. Specific examples

highlighting actions that participants planned to do differently after participation in any of the workshops included the following:

- "Develop a HVC case conference."
- "Stop asking 'Will this test change management?' and shift to 'Will this benefit the patient?'"
- "Incorporate more value based discussions during rounds."
- "Start discussing costs (dollar amounts) of care."
- "Have more conversations around the benefits and harms of test."

Specific examples highlighting the most valuable aspects of the workshop included the following:

- "The toolkit and list of HVC resources."
- "Small group break-out sessions."
- "Hearing perspectives and strategies of peers in similar situations."
- "HVC matrix."
- "Learning about how to have these discussions with families."

At the end of the workshop, the Prescription for High-Value Care (Appendix I) was distributed. It asked participants to identify two changes in behavior as a result of the session: (1) one action that they planned on starting as a result of the workshop and (2) one action that they planned on stopping as a result of the workshop. Responses are presented below.

Plan to Start Doing

- "Incorporating value-based discussions with families."
- "Develop a faculty development series on HVC."
- "Discuss potential downstream implications of tests (i.e. testing cascade)."
- "Give feedback to night float residents about their overnight evaluation and management plans."
- "Choose to have 1 patient per rounds per day to have a value conversation."
- "Reinforcing the message that observation without testing can be high value."

Plan to Stop Doing

- "Ordering every laboratory test a consultant suggests."
- "Ordering tests that I feel someone else may want, despite them not being of value to the patient."
- "Ignoring the cost of diagnostic tests."
- "Going with the plan of colleagues even if it is not cost effective or high value."
- "Trending labs just for reassurance even if the clinical course is improving."
- "Ordering daily labs (e.g. renal labs) which don't provide value."

Discussion

As health care costs rise, HVC education has come to the forefront as an educational need for medical trainees. Previous work suggests that where a medical professional trains has greater impact on individual practice than his or her current practice location.[35] This further supports the need for high-impact value curricula in undergraduate and graduate medical education. Although some HVC curricula have previously been developed,[19-23] they frequently consist of formal didactics or case-based conferences. There has been little evidence of how to best incorporate HVC into more informal education in the clinical setting.[25,28] This challenge points to the need to create an institutional culture of value, with a large component being faculty development for how to best teach value in both formal and informal environments.[36-38] This workshop provides frameworks for faculty to develop HVC education in a variety of clinical settings, from formal case-based conferences to the bedside or clinic visits, and in speaking with patients and families frankly and compassionately about value.

The development of this workshop and supplementary materials drew on existing literature, as well as the experiences of medical educators practicing in a variety of clinical settings, from inpatient (hospital medicine and pediatric intensive care) to outpatient providers. All the developers work in primarily academic settings, where the culture of value may be more pervasive. As a result, earlier iterations of the workshop lacked adequate background on the definition of HVC and its importance in our current health care system. Based on feedback from individuals with less prior exposure to value in health care, the introductory portion of the workshop was augmented to provide a more solid foundation regarding the concept of value and its relationship to health care costs and spending. This augmented introduction seeks to give a general overview of HVC and the current climate of value-based medical education. Our hope is that armed with this information, participants feel empowered to initiate changes in their own practice and educational efforts, utilizing some of the frameworks discussed in the remainder of the workshop.

Overall, this workshop has been well received by participants and has been adapted for presentation at both national and local settings. Evaluations elicited specific actions that participants gleaned from the workshop content along with proposed behavior changes, such as creating HVC case-based conferences at their home institutions or initiating more value-based discussions on rounds. The Prescription for High-Value Care distributed at the end of the workshop allowed participants to reflect on how workshop participation could lead to changes in their future practice and teaching careers, providing an action plan for moving forward.

This educational initiative does have some limitations. It was developed primarily for a pediatric audience, which may limit generalizability. However, the frameworks discussed are not specific to pediatrics, and there is potential for adapting the frameworks for other specialties by changing the example cases to be more consistent with those practice areas. We recognize that opportunities for formal faculty development must be balanced with clinical responsibilities; it may be difficult to schedule a 2-hour block to fit the time line of the workshop as presented. The design of the workshop promotes some flexibility as individuals can pick and choose small-group sessions that best suit their needs or could be divided between multiple sessions. While our evaluation methods do assess proposed behavior change, we lack the ability to follow up with participants to determine the true effect of the workshop on individual practice.

In general, this workshop and the frameworks presented address HVC education in a variety of clinical settings, promoting both formal and informal HVC education. Targeted to clinical educators, the workshop aims to address the gap in faculty development for HVC education, which is a necessary step for creating a culture of value. Future steps could include use of the Prescription for High-Value Care to further develop individual action plans or inspire the development of educational interventions to promote HVC education at individuals' own institutions, as well as modifying the content for use by nonphysician groups, such as advanced practice providers or nurses.

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Prior Presentations:
This workshop has been presented previously in the following venues:

Herrmann L, Walker L, Tchou M, Beck J, Schroeder A, Quinonez R. The pediatric value meal: supersizing high-value care education. Workshop presented at: Pediatric Hospital Medicine 2016; July 28, 2016; Chicago, IL.

Walker L, Rama J, Quinonez R. The pediatric value meal: supersizing high-value care education. Workshop presented at: Baylor College of Medicine/Texas Children's Hospital Educator's Retreat; December 9, 2016; Houston, TX.

Herrmann L, Tchou M, Walker L, et al. The pediatric value meal: supersizing high-value care education. Workshop presented at: Pediatric Academic Societies Meeting; May 7, 2017; San Francisco, CA.

Herrmann L, Tchou M, Dewan M, Gosdin C. The pediatric value meal: supersizing high value care education. Workshop presented at: Cincinnati Children's Hospital Medical Center Faculty Development and Health Care Educators Conference; October 5, 2017; Cincinnati, OH.

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Reported as not applicable.

References

1. Health spending. Organisation for Economic Co-operation and Development (OECD) website. https://data.oecd.org/healthres/health-spending.htm. Accessed November 27, 2017.
2. Berwick DM, Hackbarth AD. Eliminating waste in US health care. *JAMA*. 2012;307(14):1513-1516. https://doi.org/10.1001/jama.2012.362
3. Chassin MR, Galvin RW; National Roundtable on Health Care Quality. The urgent need to improve health care quality: Institute of Medicine National Roundtable on Health Care Quality. *JAMA*. 1998;280(11):1000-1005. https://doi.org/10.1001/jama.280.11.1000
4. Ralston SL, Schroeder AR. Doing more vs doing good: aligning our ethical principles from the personal to the societal. *JAMA Pediatr*. 2015;169(12):1085-1086. https://doi.org/10.1001/jamapediatrics.2015.2702
5. Coon ER, Quinonez RA, Moyer VA, Schroeder AR. Overdiagnosis: how our compulsion for diagnosis may be harming children. *Pediatrics*. 2014;134(5):1013-1023. https://doi.org/10.1542/peds.2014-1778
6. Chua K-P, Schwartz AL, Volerman A, Conti RM, Huang ES. Use of low-value pediatric services among the commercially insured. *Pediatrics*. 2016;138(6):e20161809. https://doi.org/10.1542/peds.2016-1809
7. Tchou MJ, Walz A, Burgener E, Schroeder A, Blankenburg R. Teaching high-value care in pediatrics: a national survey of current practices and guide for future curriculum development. *J Grad Med Educ*. 2017;9(6):741-747. https://doi.org/10.4300/JGME-D-17-00139.1
8. Korenstein D, Weissman A, Smith CD. Trends in high-value care as reported by internal medicine program directors. *J Grad Med Educ*. 2016;8(3):426-428. https://doi.org/10.4300/JGME-D-15-00340.1
9. Porter ME. Value-based health care delivery. *Ann Surg*. 2008;248(4):503-509. https://doi.org/10.1097/SLA.0b013e31818a43af
10. Kleinert S, Horton R. From universal health coverage to right care for health. *Lancet*. 2017;390(10090):101-102. https://doi.org/10.1016/S0140-6736(16)32588-0
11. Rock TA, Xiao R, Fieldston E. General pediatric attending physicians' and residents' knowledge of inpatient hospital finances. *Pediatrics*. 2013;131(6):1072-1080. https://doi.org/10.1542/peds.2012-1753
12. Sehgal RT, Gorman P. Internal medicine physicians' knowledge of health care charges. *J Grad Med Educ*. 2011;3(2):182-187. https://doi.org/10.4300/JGME-D-10-00186.1
13. Allan GM, Lexchin J, Wiebe N. Physician awareness of drug cost: a systematic review. *PLoS Med*. 2007;4(9):e283. https://doi.org/10.1371/journal.pmed.0040283
14. Krouss M, Croft L, Morgan DJ. Physician understanding and ability to communicate harms and benefits of common medical treatments. *JAMA Intern Med*. 2016;176(10):1565-1567. https://doi.org/10.1001/jamainternmed.2016.5027
15. Hoffmann TC, Del Mar C. Clinicians' expectations of the benefits and harms of treatments, screening, and tests: a systematic review. *JAMA Intern Med*. 2017;177(3):407-419. https://doi.org/10.1001/jamainternmed.2016.8254
16. Weinberger SE. Providing high-value, cost-conscious care: a critical seventh general competency for physicians. *Ann Intern Med*. 2011;155(6):386-388. https://doi.org/10.7326/0003-4819-155-6-201109200-00007

17. Korenstein D. Charting the route to high-value care: the role of medical education. *JAMA*. 2015;314(22):2359-2361. https://doi.org/10.1001/jama.2015.15406
18. Cooke M. Cost consciousness in patient care—what is medical education's responsibility? *N Engl J Med*. 2010;362(14):1253-1255. https://doi.org/10.1056/NEJMp0911502
19. Moriates C, Shah N, Levy A, Lin M, Fogerty R, Arora V. The teaching value workshop. *MedEdPORTAL*. 2014;10:9859. https://doi.org/10.15766/mep_2374-8265.9859
20. Reddy M, Cantrell LA. Development of a high value care educational module for obstetrics and gynecology residents. *Obstet Gynecol*. 2016;128(suppl 1):53S-54S. https://doi.org/10.1097/01.AOG.0000502712.34102.63
21. Blackwell M, Moore K, Kocoloski A, Gill P. Teaching and evaluating high-value care through a novel case-based morning report curriculum. *MedEdPORTAL*. 2016;12:10356. https://doi.org/10.15766/mep_2374-8265.10356
22. Avery CS, Beck J, Padrez R, et al. Developing the PedsValue Modules—a national pediatric high value care curriculum. *Acad Pediatr*. 2017;17(5):471-475. https://doi.org/10.1016/j.acap.2017.04.006
23. Woods S, Avery C, Bartlett K, et al. High value care pediatric curriculum. *MedEdPORTAL*. 2015;11:10146. https://doi.org/10.15766/mep_2374-8265.10146
24. Eraut M. Informal learning in the workplace: evidence on the real value of work-based learning (WBL). *Dev Learn Organ*. 2011;25(5):8-12. https://doi.org/10.1108/14777281111159375
25. Beck JB, McDaniel CE, Bradford MC, et al. Prospective observational study on high-value care topics discussed on multidisciplinary rounds. *Hosp Pediatr*. 2018;8(3):119-126. https://doi.org/10.1542/hpeds.2017-0183
26. Sedrak MS, Patel MS, Ziemba JB, et al. Residents' self-report on why they order perceived unnecessary inpatient laboratory tests. *J Hosp Med*. 2016;11(12):869-872. https://doi.org/10.1002/jhm.2645
27. Patel MS, Reed DA, Smith C, Arora VM. Role-modeling cost-conscious care—a national evaluation of perceptions of faculty at teaching hospitals in the United States. *J Gen Intern Med*. 2015;30(9):1294-1298. https://doi.org/10.1007/s11606-015-3242-5
28. Stammen LA, Stalmeijer RE, Paternotte E, et al. Training physicians to provide high-value, cost-conscious care: a systematic review. *JAMA*. 2015;314(22):2384-2400. https://doi.org/10.1001/jama.2015.16353
29. Jonas JA, Ronan JC, Petrie I, Fieldston ES. Description and evaluation of an educational intervention on health care costs and value. *Hosp Pediatr*. 2016;6(2):72-79. https://doi.org/10.1542/hpeds.2015-0138
30. Burgener E, Hensley A, Tchou M, et al. High-value, cost-conscious medicine: teaching residents to safely do less. Paper presented at: Pediatric Academic Societies Meeting; April 25-28, 2015; San Diego, CA.
31. Herrmann L, Walker L, Tchou M, Beck J, Schroeder A, Quinonez R. The pediatric value meal: supersizing high-value care education. Workshop presented at: Pediatric Hospital Medicine 2016; July 28, 2016; Chicago, IL.
32. Herrmann L, Tchou M, Walker L, et al. The pediatric value meal: supersizing high-value care education. Workshop presented at: Pediatric Academic Societies Meeting; May 7, 2017; San Francisco, CA.
33. Walker L, Rama J, Quinonez R. The pediatric value meal: supersizing high-value care education. Workshop presented at: Baylor College of Medicine/Texas Children's Hospital Educator's Retreat; December 9, 2016; Houston, TX.
34. Herrmann L, Tchou M, Dewan M, Gosdin C. The pediatric value meal: supersizing high value care education. Workshop presented at: Cincinnati Children's Hospital Medical Center Faculty Development and Health Care Educators Conference; October 5, 2017; Cincinnati, OH.
35. Chen C, Petterson S, Phillips R, Bazemore A, Mullan F. Spending patterns in region of residency training and subsequent expenditures for care provided by practicing physicians for Medicare beneficiaries. *JAMA*. 2014;312(22):2385-2393. https://doi.org/10.1097/ACM.0000000000001485
36. Gupta R, Moriates C. Swimming upstream: creating a culture of high-value care. *Acad Med*. 2017;92(5):598-601. https://doi.org/10.1097/ACM.0000000000001485
37. Gupta R, Moriates C, Harrison JD, et al. Development of a high-value care culture survey: a modified Delphi process and psychometric evaluation. *BMJ Qual Saf*. 2017;26(6):475-483. https://doi.org/10.1136/bmjqs-2016-005612
38. Tchou MJ, Dewan M, Herrmann LE. Confronting the hidden curriculum of high-value care education. *Hosp Pediatr*. 2018;8(3):173-175. https://doi.org/10.1542/hpeds.2017-0248

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